**AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Federal Clean Water Act, as amended, (33 U.S.C.§§ 1251 et seq.; the "CWA"), and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap.21, §§26-53),

Mass Fin Tech, LLC

is authorized to discharge from the facility located at

**Mass Fin Tech, LLC
15 Industrial Boulevard
Turners Falls, MA 01376**

to receiving waters named

Connecticut River (Connecticut River Watershed - MA34-02)

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective 60 days after signature.

This permit and the authorization to discharge expires at midnight, five (5) years from the effective date.

This permit supercedes the permit issued September 21, 1995.

This permit consists of 13 pages in PART I including effluent limitations, monitoring requirements and 35 pages in PART II including General Conditions and Definitions.

Signed this day of

_____
Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency
Boston, Massachusetts

_____
Director
Division of Watershed Management
Department of Environmental Protection
Commonwealth of Massachusetts
Boston, Massachusetts

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. **During the period beginning the effective date and lasting until the relocation and termination of the discharge, or expiration of the permit**, whichever comes first, the permittee is authorized to discharge from outfall serial number **001- Deep Hole of the Connecticut River,** treated effluent to the Deep Hole of the Connecticut River. Such discharges shall be limited and monitored by the permittee as specified below. Samples taken in compliance with the monitoring requirements specified below shall be taken at a location that provides a representative analysis of the effluent prior to mixing with any other wastestreams.

EFFLUENT CHARACTERISTIC		EFFLUENT LIMITS			MONITORING REQUIREMENTS	
PARAMETER	UNITS	AVERAGE MONTHLY	AVERAGE WEEKLY	MAXIMUM DAILY	MEASUREMENT FREQUENCY	SAMPLE[3] TYPE
Flow	MGD	0.3	***	0.3	Continuous[1]	Recorder
BOD_5	mg/l	40 100 lbs/day	***	80 200 lbs/day	Weekly[2]	Composite[4]
TSS	mg/l	30 75 lbs/day	***	50 125 lbs/day	Weekly[2]	Composite[4]
pH	SU	(See Condition I.A.1.b on Page 4)			Monthly	Grab
Dissolved Oxygen	mg/l	***	***	6.0	Weekly[2]	Grab
Total Phosphorus	mg/l	0.2	***	Report	Weekly[2]	Composite[4]
Nitrate + Nitrite	mg/l	Report	***	Report	Monthly[3]	Composite[4]
Total Kjeldahl Nitrogen	mg/l	Report	***	Report	Monthly[3]	Composite[4]
Total Ammonia	mg/l	Report	***	Report	Monthly[3]	Composite[4]
Total Residual Chlorine	ug/l	11	***	19	During major cleaning events, such as disinfection of tank[5,6]	Grab

Ozone, Residual	mg/l	>0.02[7]	***	>0.02[7]	Daily	Grab

See page 4 for explanation of superscripts

2. **Following the relocation and termination of the discharge from the "Deep Hole" to the mainstem of the Connecticut River and lasting through expiration**, the permittee is authorized to discharge from outfall serial number **002 - mainstem of the Connecticut River,** treated effluent to the mainstem of the Connecticut River. Such discharges shall be limited and monitored by the permittee as specified below. Samples taken in compliance with the monitoring requirements specified below shall be taken at a location that provides a representative analysis of the effluent prior to mixing with any other wastestreams. NOTE: If the switch to Outfall 002 occurs mid-month, both outfall 001 and 002 must be sampled and reported on separate DMRs. Outfall 001 must be formally terminated within 30 days of the activation of Outfall 002.

EFFLUENT CHARACTERISTIC		EFFLUENT LIMITS			MONITORING REQUIREMENTS	
PARAMETER	UNITS	AVERAGE MONTHLY	AVERAGE WEEKLY	MAXIMUM DAILY	MEASUREMENT FREQUENCY	SAMPLE[3] TYPE
FLOW	MGD	0.3	***	0.3	Continuous[1]	Recorder
BOD_5	mg/l	40 100 lbs/day	***	80 200 lbs/day	Weekly[2]	Composite[4]
TSS	mg/l	30 75 lbs/day	***	50 125 lbs/day	Weekly[2]	Composite[4]
pH	SU	(See Condition I.A.1.b on Page 4)			Monthly	Grab
Dissolved Oxygen	mg/l	***	***	>6.0 (see I.A.1.c)	Weekly[2]	Grab
Total Phosphorus	mg/l	Report	***	Report	Monthly	Composite[4]
Nitrate + Nitrite	mg/l	Report	***	Report	Monthly[3]	Composite[4]
Total Kjeldahl Nitrogen	mg/l	Report	***	Report	Monthly[3]	Composite[4]
Total Ammonia	mg/l	Report	***	Report	Monthly[3]	Composite[4]
Total Residual Chlorine	~~ug/l~~ mg/l	1	***	1	During major cleaning events, such as disinfection of tank[5, 6]	Grab
Ozone, Residual	mg/l	>0.02[7]	***	>0.02[7]	Daily	Grab

See page 4 for explanation of superscripts

Footnotes:

1. The flow shall be continuously measured and recorded using a flow meter and totalizer.

2. The BOD_5 ,TSS, Dissolved Oxygen (and Total Phosphorus when discharging from Outfall 001) samples shall be taken weekly during maintenance activities.

3. Samples for Nitrate plus Nitrite, Total Kjeldahl Nitrogen, Total Ammonia (and Total Phosphorus when discharging from Outfall 002) shall be taken monthly during maintenance activities concurrent with a round of weekly samples.

4. A composite sample shall consist of at least 8 grab samples collected during the cleaning cycle.

5. The effluent shall be monitored hourly for TRC when chlorine cleaning water is added to the system. Sampling should continue for one hourly period following the first value below the ML assuming the level remains below the ML. The effluent sample shall be representative of the maximum concentration of chlorine levels in the final effluent.

6. The minimum level (ML) for total residual chlorine is defined as 0.05 mg/l. This value is the minimum level for chlorine using EPA approved methods found in Standard Methods for the Examination of Water and Wastewater, 20th Edition, Method 4500 CL-E and G, or USEPA Manual of Methods of Analysis of Water and Wastes, Method 330.5. One of these methods must be used to determine total residual chlorine. For effluent limitations less than 0.05 mg/l, compliance/non-compliance will be determined based on the ML. Sample results of 0.05 mg/l or less shall be reported as zero on the discharge monitoring report.

7. The ozone residual of greater than 0.02 mg/l is following sixty (60) seconds contact time.

Part I.A.1. (continued)

a. The discharge shall not cause a violation of the water quality standards of the receiving waters.

b. The pH of the effluent shall not be less than 6.5 nor greater that 8.3 and not more than 0.5 units outside of the background range. There shall be no change from background conditions that would impair any use assigned to this class.

c. Dissolved oxygen shall be maintained at a minimum of 6.0 mg/l.

d. The discharge shall not cause objectionable discoloration of the receiving waters.

e. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.

f. The permittee shall not discharge into the receiving water any pollutant or combination of pollutants in toxic amounts.

g. The permittee shall notify EPA and the State within 24-hours upon the occurrence of a water quality induced mortality of greater than 25 percent in any aquatic species under culture at the facility in accordance with reporting requirements in General Conditions PART II.D.1.e.

h. Samples taken in compliance with the monitoring requirements specified in this permit shall be taken prior to mixing with any receiving water or any other waste stream.

2. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe (40 Code of Federal Regulations (CFR) §122.42):

a. That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"

(1) One hundred micrograms per liter (100 ug/L);

(2) Two hundred micrograms per liter (200 ug/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/L) for 2,4-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;

(3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or

(4) Any other notification level established by the Director in accordance with 40 CFR §122.44(f) and Massachusetts regulations.

b. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"

(1) Five hundred micrograms per liter (500 ug/L);

(2) One milligram per liter (1 mg/L) for antimony;

(3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or

(4) Any other notification level established by the Director in accordance with 40 CFR §122.44(f) and Massachusetts regulations.

c. That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.

3. No components of the effluent shall result in any demonstrable harm to aquatic life or violate any water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards, with the permittee being so notified.

4. This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable standard or limitation promulgated or approved under sections 301(b)(2)(C) and (d), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

   a. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

   b. Controls any pollutants not limited in the permit.

5. Any change in: 1) the fish species to be raised at this facility or, 2) the development stage to be attained at this facility, will require written notification to EPA and the State and possible permit modification.

6. There shall be no discharge of untreated wastewater resulting from cleaning accumulated solids in the raceways, culture tanks, screens and associated equipment.

7. The permittee shall notify EPA and MADEP 30 days prior to the planned date for initiating the discharge through outfall 002, and shall notify EPA and MADEP when it initiates the discharge through outfall 002. Upon the initiation of the discharge through outfall 002, the authorization to discharge through outfall 001 is terminated.

8. Medication

   a. The permittee shall use only medications and disease control chemicals in dosages and combinations as approved by the U.S. Food and Drug Administration (USFDA), U.S. Fish and Wildlife Service (USF&WS), EPA and the Commonwealth of Massachusetts DEP.

   b. The permittee shall use these medications and chemicals as needed to treat a disease or disease-causing conditions. The prophylactic use of disease control medications is prohibited.

   c. The permittee shall notify within 24 hours by telephone and within 5 working days in writing the Regional Administrator at EPA-New England, U.S. Fish and Wildlife Service, the Massachusetts Division of Fisheries and Game, the Massachusetts Department of Environmental Protection of the emergency use or the immediate intended use of any medication and/or chemical not specifically identified in the Best Management Practices Plan as described below.

   d. The Regional Administrator or the Director will notify the permittee when the use of a specific chemical described in *PART I.A.8.c.*, immediately above, is unacceptable or that

the dosage concentration or frequency level must be modified to protect the aquatic community in the receiving water.

B. BEST MANAGEMENT PRACTICES (BMP) PLAN

1. The Best Management Practices (BMP) Plan to be followed in operating the facility, cleaning tanks, raceways, and other equipment must be updated to represent the current facility and operations. The purpose of the plan is to identify and describe the practices which minimize the amounts of pollutants discharged to surface waters.

   a. The BMP Plan shall be completed, dated, signed and submitted to EPA and the MA DEP **within 90 days after the effective date** of this permit; the plan shall be modified as necessary during the life of the permit.

   b. The BMP Plan will be considered accepatable if EPA and the State have not responded within forty-five (45) days of its receipt. The BMP Plan shall be submitted directly to the Director, Office of Ecosystem Protection at EPA New England and to the Director, Division of Watershed Management at the MA DEP.

   c. Upon acceptance, the BMP Plan becomes an enforceable element of this permit and shall be implemented by the permittee.

   d. The permittee shall amend the BMP Plan whenever there is a change in facility design, construction, operation or maintenance which affects the potential for discharge of pollutants into surface waters. Amendments to the BMP Plan shall be submitted directly to the Director, Office of Ecosystem Protection at EPA New England and to the Director, Division of Watershed Management at the MA DEP. Amendments shall be considered acceptable if EPA and the MA DEP have not responded after forty-five (45) days of its receipt.

   e. The BMP Plan shall include, as a minimum, the following items:

      i. During operations:

         (1) A description of the pollution control equipment or methods used to enhance solids collection.

         (2) A description of how excessive solids buildup will be identified to trigger more frequent cleaning of the raceways/culture tanks and equipment thereby preventing more suspended and dissolved materials in the discharge.

         (3) A description of feeding methods used to minimize the amount of feed residual in the discharge.

(4) A description of the preventative maintenance program for cleaning equipment so that delays in cleaning due to equipment failures are avoided.

(5) A description of the analyses and model (if one is used) used to determine the time of maximum concentration based on dosage, injection point, facility flow, etc.

ii. Biological Pollution

(1) Describe, in detail, the precautions that will be exercised by the facility to prevent aquatic organisms that are not indigenous to the New England area and/or the United States from becoming established in the local surface waters.

(2) A description for storage and treatment of Outfall 001 discharge during plant upsets to prevent biological pollution (non-native organism, fish parasites and fish diseases) from entering the receiving water in the case of an untreated discharge bypass.

iii. Cleaning of culture tanks/raceways and other equipment:

(1) Describe in detail how the accumulated solids are to be removed, dewatered and methods of disposal.

(2) Describe where the removed material is to be placed and the techniques used to prevent it from re-entering the surface waters from any on-site storage. If the material is removed from the site, describe who received the material and its method of disposal and/or reuse.

iv. Medications and chemicals used in the facility:

(1) List in the plan all medications and chemicals that are expected to be used in the culture tanks/raceways. For each medication or chemical, identify:

(a) Product name of the medication or chemical.

(b) The chemical formulation of the medication or chemical.

(c) The purpose or use of the chemical.

(d) The dosage concentration, frequency of application (hourly, daily, etc.) and the duration (hours, days) of treatment.

(e) The method of application.

(f) Material Safety Data Sheets (MSDS), Chemical Abstracts Service (CAS) Registry number for each active therapeutic ingredient.

(g) The method or methods used to detoxify the wastewater prior to discharge following application of chemical and/or medication.

(h) Information on the persistence and toxicity of each medication or chemical.

(i) Information on the Food and Drug Administration (USFDA) approval for the use of said medication or chemical on fish or fish related products used for human consumption.

(j) Available aquatic toxicity data for each medication or chemical used (vendor data, literature data, etc.); LC_{50} at 48 and/or 96 hours and No Effect Level (NOEL) concentrations for typical aquatic organisms (salmon, trout, daphnia, fathead minnow, etc.).

v. Personnel Training
Describe the training to be provided for employees to assure they understand the goals and objectives of the BMPs, the requirements of the NPDES Permit and their individual responsibilities for complying with the goals and objectives of the BMP Plan and the NPDES permit.

vi. BMP Records Maintenance
Records of the calculations done at the time of sampling must be maintained at the facility in order that an inspector may verify that the sampling was properly conducted.

C. PHOSPHORUS EVALUATION STUDY

The permittee shall undertake the following steps during the duration of the permit to optimize reduction in phosphorus loading from the facility to the Connecticut River. The permittee is required to undertake the following:

i. **Within 12 months of the issuance of the permit**, the permittee shall implement a phosphorus monitoring program and complete a loading analysis sufficient to characterize loadings in the facility as well as loadings to the receiving water; the evaluation shall be such that variations in loadings can be determined with a high degree of confidence; the results of this analysis should be submitted to the permit authorities within three months of the completion of the study.

ii. **Within 24 months of the issuance of the permit** the permittee shall develop an optimization plan to provide maximum removal of phosphorus with the current facility and with the possible alterations to treatment techniques and shall develop a program to minimize phosphorus loadings. The plan should be submitted to the regulatory agencies within three months of completion and implemented during the remaining time period of the permit.

D. UNAUTHORIZED DISCHARGES

1. The discharge shall receive treatment at a level providing Best Practicable Control Technology Currently Available (BPT), Best Conventional Pollutant Control Technology (BCT) to control and abate conventional pollutants and Best Available Technology Economically Achievable (BAT) to control and abate non-conventional and toxic pollutants.

2. The facility may not by-pass the treatment system, at any time. This includes the practice discussed in the submitted Best Management Plan in which the fish tanks are drained at a rate beyond the capacity of the drum filters. This practice is considered a by-pass and violations under the terms of this permit. For additional information, please see Permit Part II Section B.4.

E. SLUDGE

1. The disposal of solid waste materials from the facility shall comply with the appropriate Federal, State and local statutes.

F. MONITORING AND REPORTING

1. Reporting

Monitoring results obtained during each calendar month shall be summarized and reported on Discharge Monitoring Form(s) postmarked **no later that the 15th day of the following month**.

Signed and dated originals of these, and all other reports required herein, shall be submitted to the Director and the State at the following addresses:

U.S. Environmental Protection Agency
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114-8127

The State Agency is:

Massachusetts Department of Environmental Protection
Western Regional Office
436 Dwight Street
Suite 402
Springfield, MA 01103

A copy of all technical information associated with medications and chemicals used for disease/parasite control and complementary aquatic toxicology and biological pollution shall be submitted to the following:

U.S. Fish and Wildlife Service
300 Westgate Center Drive
Hadley, Massachusetts 01035-9589

to:

Massachusetts Department of Environmental Protection
Division of Watershed Management
627 Main Street, 2nd Floor
Worcester, MA 01608

and to:

Massachusetts Department of Fisheries, Wildlife and Environmental Law Enforcement
Massachusetts Division of Fisheries and Wildlife
Field Headquarters
One Rabbit Hill Road
Westborough, Massachusetts 01581

G. STATE PERMIT CONDITIONS

1. This Discharge Permit is issued jointly by the U. S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (DEP) under Federal and State law, respectively. As such, all the terms and conditions of this permit are hereby incorporated into and constitute a discharge permit issued by the Commissioner of the MA DEP pursuant to M.G.L. Chap.21, §43.

2. Each Agency shall have the independent right to enforce the terms and conditions of this Permit. Any modification, suspension or revocation of this Permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this Permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this Permit is declared, invalid, illegal or otherwise issued in violation of State law such permit shall remain in full force and effect under Federal law as an NPDES Permit issued by the U.S. Environmental Protection Agency. In the event this Permit is declared invalid, illegal or otherwise issued in violation of Federal law, this Permit shall remain in full force and effect under State law as a Permit issued by the Commonwealth of Massachusetts.